DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BUTTERFIELD POND	Lake Area (ha):	4.82
Town: WILMOT	Maximum depth (m):	6.8
County: Merrimack	Mean depth (m):	1.9
River Basin: Merrimack	Volume (m³):	92000
Latitude: 43°29'09" N	Relative depth:	2.7
Longitude: 71°58'05" W	Shore configuration:	1.28
Elevation (ft): 1360	Areal water load (m/yr):	6.23
Shore length (m): 1000	Flushing rate (yr^{-1}) :	3.30
Watershed area (ha): 49.2	P retention coeff.:	0.62
<pre>% watershed ponded: 0.0</pre>	Lake type: natural	w/dam

27 February 1997	10 July 1996
DINOBRYON 99%	MALLOMONAS 99%
1010 112	
	3.23
KERATELLA 63%	KERATELLA 86%
	KELLICOTTIA 6%
	HOLOPEDIUM 3%
45	368
3	24
49	394
	Common
	4.3
1.9	0.5
	< 1
	< 1
	DINOBRYON 99% KERATELLA 63% 45 3 49

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.2 Hypolimnion volume (m^3) : 90 Anoxic volume (m^3) : 200

CHEMICAL:			BUTTERFII WILMOT	ELD POND	
	27 February 1997 10		July 1996		
DEPTH (m)	2.0	4.0	2.0		4.0
pH (units)	5.4	5.5	5.3		5.2
A.N.C. (Alkalinity)	1.1	2.1	0.4		0.4
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.29	0.33	0.16		0.30
TOTAL PHOSPHORUS	0.011	0.012	0.011		0.010
CONDUCTIVITY (µmhos/cm)	21.4	24.0	18.9		19.5
APPARENT COLOR (cpu)	11	14	25		30
MAGNESIUM			0.27		·
CALCIUM			1.1		
SODIUM			< 1.0	-	
POTASSIUM			< 0.40		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	4	4	5		4
TN : TP	26	28	15		30
CALCITE SATURATION INDEX			6.4		

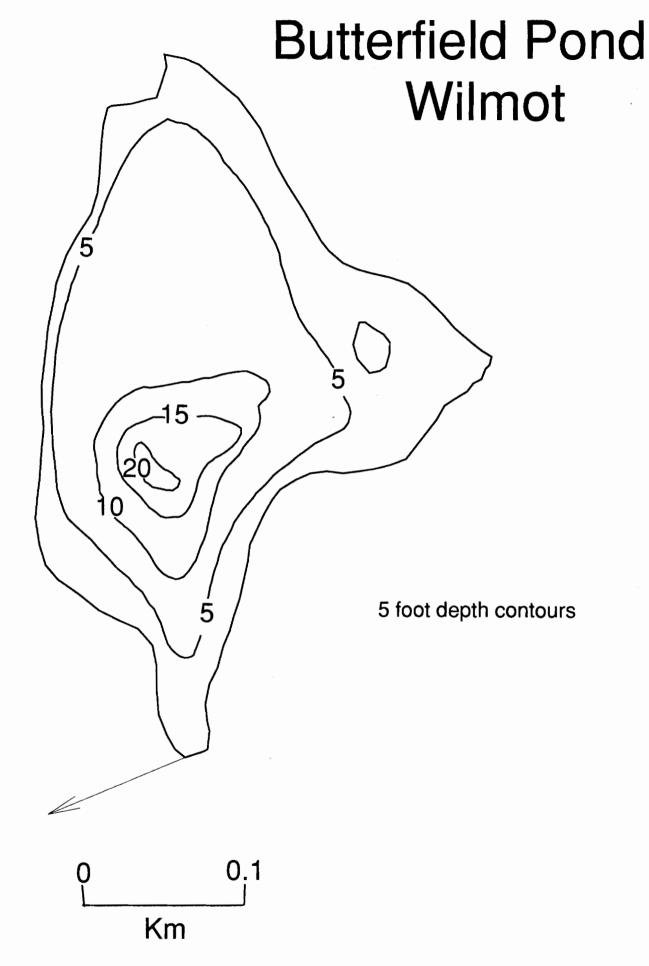
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1996

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	2	3	0	9	Meso.

COMMENTS:

- This is a remote, headwater pond that was sampled jointly with the Fish and Game Department.
- 2. It is a relatively clear, acid pond with essentially no buffering capacity (ANC).
- 3. No motorboats are allowed on the pond.
- 4. The summer net phytoplankton was almost exclusively one species (*Mallomonas*) and the zooplankton was strongly dominated by an abundant number of the rotifer *Keratella*.
- 5. A very tiny hypolimnion was present and it was completely anoxic.



FIELD DATA SHEET

LAKE: BUTTERFIELD POND TOWN: WILMOT
DATE: 07/10/96 WEATHER: PARTLY CLOUDY, BREEZY, WARM DATE: 07/10/96

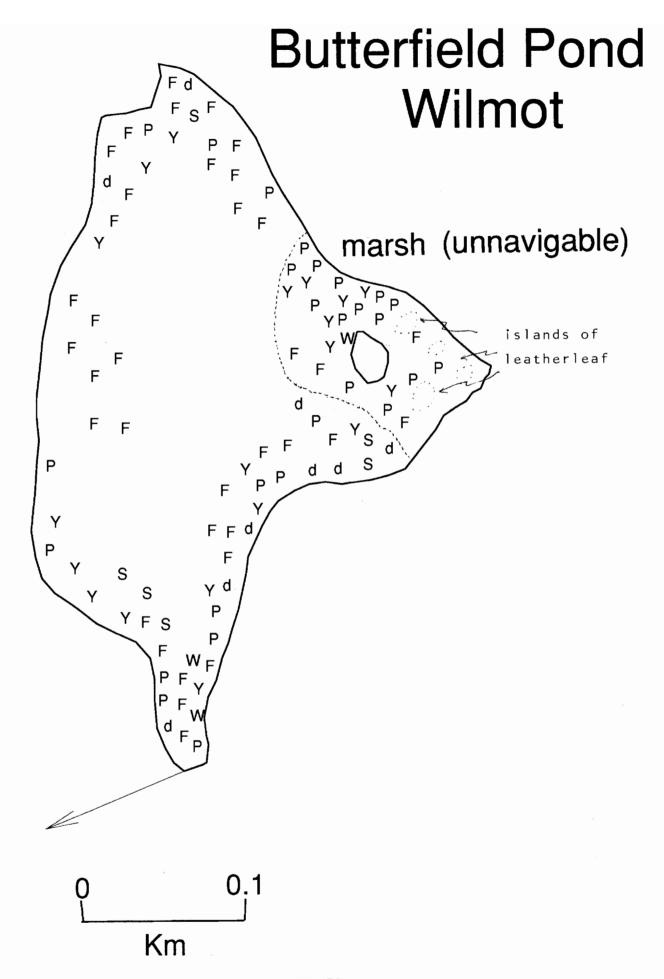
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	23.5	8.0	93 %
1.0	23.2	8.0	93 %
2.0	22.5	7.8	88 %
3.0	20.6	7.5	82 %
4.0	16.5	6.9	69 %
5.0	11.4	2.2	20 %
6.0	8.8	0.3	3 %
6.5	8.2	0.5	4 %

SECCHI DISK (m): 4.3 COMMENTS:

BOTTOM DEPTH (m): 6.8

TIME: 1115

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY LAKE: BUTTERFIELD POND TOWN: WILMOT DATE: 07/10/96 PLANT NAME ABUNDANCE

	D. BOTTBACTEDED TOND	TOWN: WILLIOI	DATE: 07/10/30	
Key	PLANT	NAME	ABUNDANCE	
иел	GENERIC	COMMON		
P	Pontederia cordata	Pickerelweed	Scattered	
F	Nymphoides cordatum	Floating heart	Scattered	
d	Dulichium arundinaceum	Three-way sedge	Scattered	
Y	Nuphar	Yellow water lily	Scattered	
S	Sparganium	Bur reed	Sparse	
W	Potamogeton	Pondweed	Sparse	
	3.0			
		177		
·		144		
			101-0-1	
	*			

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS:

1. Plants were scattered along the western shore and abundant in the eastern cove for an overall rating of common.